

Appl. No. : **09/804,458**
Filed : **March 12, 2001**

REMARKS

The Applicants have amended Claims 1, 19, 20 and 21, cancelled Claims 2, 4, 5, 9, 17, and 18, and added new Claims 23-41. The specific changes to the amended claims are shown above, wherein the insertions are underlined and the ~~deletions are stricken through~~. The Applicants respond below to rejections and objections raised by the Examiner in the Office Action of October 31, 2003.

I. Election/Restrictions

In the Office Action of October 31, 2003, the Examiner has required restriction of examination of the application to one of two groups of claims. More particularly, the Examiner identified Group I consisting of Claims 1-16 and 19-22, and Group II consisting of Claims 17 and 18. The Applicants affirm the provisional election of October 13, 2003 and hereby elect Claims 1-16 and 19-22 (i.e., Group I) for examination and cancel Claims 17 and 18 without prejudice. The election is made without traverse.

II. Objection to Specification

The Applicants acknowledge the Examiner's request for cooperation in correcting any errors in the specification of which the Applicants become aware.

The Examiner has objected to the Specification because three co-pending U.S. patent applications which are incorporated by reference at page 1 lines 12-22 are not identified by application numbers. The Applicants submit that the present amendment to the Specification includes the three U.S. Patent Application numbers as well as the U.S. Patent number for the one issued application.

The Examiner has also requested correction of the Specification such that pending applications on pp. 51, 52, 86, and 87 be replaced with patent or publication numbers wherever possible. The Applicants submit that the present amendment to the Specification makes such corrections.

The Applicants respectfully submit that the amendments to the Specification overcome the Examiner's objections and other concerns and do not add any new matter.

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III. Rejections under 35 U.S.C. § 112

The Examiner has rejected Claims 1-16 and 22 under 35 U.S.C. §112, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In particular, the Examiner has alleged that the recitation of the properties of an electrical field produced by the electrodes is not a limitation that can be considered when assessing patentability because the limitation does not define any structure of the apparatus.

The Applicants respectfully submit that the properties of the electrical field depend largely on the electrode structure and that the limitations on electric field uniformity structurally limit the claimed apparatus because many electrode structures are not capable of creating an electrical field as recited in the claims.

Accordingly, the Applicants have left the limitations directed to the electrical field properties in the claims, but have also added additional structural limitation to independent Claims 1 and 19.

The Examiner has also rejected Claim 9 as not having an antecedent basis for "said plurality of wells." The Applicants have cancelled Claim 9.

IV. Rejections under 35 U.S.C. § 102 and 103

The Examiner has rejected Claims 1-16 and 19-22 as being either anticipated by, or obvious in view of Giaever et al. (USP 5,187,096), Malin et al. (USP 5,643,742), Arnold et al. (USP 4,801,543), and Clark et al (USP 5,194,133). The Applicants respectfully traverse.

The Applicants acknowledge and note the following. Giaever et al. disclose an apparatus having metal foil strips which cross, and overlap on different planes, so as to form electrodes in wells. Malin et al. teach an array of wells containing two electrodes each, wherein the electrodes are cylindrical "pin" electrodes. Arnold et al. teach a square particle differentiation chamber bounded by electrodes which produce a rotating electrical field within the chamber. Finally, Clark et al. teach the use of glass as a substrate in the manufacture of a biological material sensor device.

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As discussed in the above section regarding the rejections under § 112, the Applicants maintain that the properties of an electrical field depend at least in part on the electrode structure, and that a recitation of such therefore limits the physical electrode structures that fall within the claims. However, in accordance with the Examiner's suggestion, the Applicants have also added further structural limitations to the independent claims.

Specifically, Claim 1 now recites that the "electrodes are substantially parallel, non-overlapping strips positioned parallel to the bottom surface of the well." The electrodes of Giaever are perpendicular and overlap each other in different planes. The electrodes of Malin are cylindrical pins. The electrodes of Arnold are not parallel to the bottom surface of the well. Because none of these prior art references is concerned with field uniformity over the bottom surface of the well, none of them teach or suggest the electrode configuration claimed in independent Claim 1.

The other rejected independent claim, Claim 19, now recites that "said first pair of electrodes are substantially planar, substantially parallel to each other, and substantially perpendicular to the bottom surface of the well" and that "said at least one additional electrode is substantially planar and substantially parallel to said first pair of electrodes." In Arnold, the additional electrode is necessarily perpendicular to the "first pair" of electrodes. As stated above, neither Arnold nor any other prior art of record teaches or suggests the electrode configuration of Claim 19 as they have no concern with field uniformity over the bottom surface of the well.

Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejections.

V. New Claims

The Applicants have also added new independent Claim 23. This claim is directed to an assay plate and electrode assembly comprising electrodes having particular structural limitations. More specifically, Claim 23 recites that "said electrodes are substantially planar, substantially parallel to each other, substantially perpendicular to the bottom surface of the well, and spaced from the bottom surface of the well a distance of about 0.1 mm to 0.5 mm." Several embodiments of the present invention include such an electrode configuration; some examples of

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this design are discussed in the specification at page 20, line 19 to page 22, line 15. This electrode configuration is not taught or suggested by the prior art of record.

The Applicants have also added Claims 24-41, which depend from Claim 23.

CONCLUSION

The Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the specification and the claims pursuant to the Examiner's objections and rejections under §§ 112, 102, and 103, the reasons therefore, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

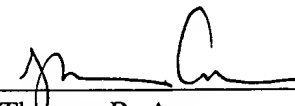
Any claim amendments which are not specifically discussed in the above remarks are not made for patentability purposes, and it is respectfully submitted that the claims satisfy the statutory requirements for patentability without the entry of such amendments. These amendments have only been made to increase claim readability, to improve grammar, or to reduce the time and effort required of those in the art to clearly understand the scope of the claim language.

If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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